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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,965	10/15/2003	Zhizhang Chen	10017974-4	8832

7590 03/28/2005

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

LE, DUNG ANH

ART UNIT PAPER NUMBER

2818

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/686,965

Applicant(s)

CHEN ET AL.

Examiner

DUNG A LE

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1- 47 is/are pending in the application.
- 4a) Of the above claim(s) 15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Oath/Declaration

The oath/declaration filed on 10/15/2003 is acceptable.

Election/Restriction

Application's election without traverse of Group I (Claims 1-14 and 17-47) drawn to a Emitter is acknowledged for prosecution in the subject application . Applicants have the right to file a divisional, continuation or continuation-in-part application covering the subject matter of the non-elected claims.

Oath/Declaration

The oath/declaration filed on 6/17/2002 is acceptable.

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections

The following sets of claims are under the nonstatutory double patenting rejection:

Sets of claims: 1-11, 17- 28; 29- 42 and 43-47.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Set of Claims 1-11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 17 of Patent 6,806,488 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time of the invention was made to form a conductive electrode having multiple layers of conductive material including protective layer disposed on the cathode layer and wherein the conductive electrode as been etched to define an opening thereby exposing a portion of the cathode layer by introducing a conduction layer disposed partially on the ~~cathode layer~~ and defining an opening to create an emission area in order to define an inventive Emitter device.

Set of Claims 17- 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 17 of Patent 6,806,488 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time of the invention was made to form a conductive protective layer disposed on the cathode layer wherein the conductive protective layer has been etched to define an opening thereby exposing a portion of the cathode layer for electron emission by introducing a conduction layer disposed partially on the ~~cathode layer~~ and defining an opening to create an emission area in order to define an inventive Emitter device.

Set of Claims 29- 42 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 43 of Patent 6,806,488 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time of the invention was made to form a conductive protective layer disposed on the cathode layer and defining a second opening substantially aligned with the first opening by a conductive layer having at least one opening disposed within and in substantial alignment with the at least one opening of the insulator layer in order to define an inventive Emitter device.

Set of Claims 43- 47 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 17 of Patent 6,806,488 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time of the invention was made to form protective layer disposed over cathode layer, the protective layer having at least one opening in substantial alignment with the at least one opening of the insulator layer by introducing a conduction layer disposed partially on the cathode layer and defining an opening to create an emission area in order to define an inventive Emitter device.

Set of claims 12- 14:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 12- 13 are rejected under 35 USC 102 (e) as being anticipated by

Ramamoorthi et al. (U.S. Patent No. 6,806,488 B2).

Ramamoorthi et al. teach an emitter, comprising:

a cathode layer 14 having an emissive surface (12A-12D); an

electron lens 28 disposed at a predetermined distance from the emissive surface;

and at least one sacrificial layer 65 disposed between the cathode layer 14 and the

electron lens 28 , the at least one sacrificial layer 65 having an opening

substantially aligned with said emissive surface.

Regarding claim 13, wherein the at least one sacrificial layer is titanium or molybdenum. (col 8, line 59)

Reasons for Indication of Allowable Subject Matter

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, since the prior made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Ramamoorthi et al. (U.S. Patent No. 6,806,488 B2) and Background of Invention, taken individually or in combination, do not teach the claimed invention having an emitter further comprising a spacer layer of tetraethylorthosilicate, silicon oxides, silicon nitrides, or combinations thereof separating the electron lens and emissive surface.

When responding to the office action, Applicants' are advice to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.


A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung A. Le whose telephone number is (571) 272-1784. The examiner can normally be reached on Monday-Tuesday and Thursday 6:00am- 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DUNG A. LE 
Primary Examiner
Art Unit 2818